

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

Lynk Labs, Inc.,

Plaintiff,

v.

Home Depot USA, Inc., The Home Depot Inc.,  
and Home Depot Product Authority, LLC,

Defendants.

Case No. 6:21-cv-00097-ADA

**JURY TRIAL DEMANDED**

**PLAINTIFF LYNK LABS, INC.'S  
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

## **TABLE OF CONTENTS**

|      |                                                                                                                                                                                                                    |    |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| I.   | INTRODUCTION .....                                                                                                                                                                                                 | 1  |
| II.  | BACKGROUND of the technology .....                                                                                                                                                                                 | 1  |
| III. | PATENTS-IN-SUIT .....                                                                                                                                                                                              | 4  |
| IV.  | LEGAL STANDARD.....                                                                                                                                                                                                | 5  |
| V.   | ARGUMENT.....                                                                                                                                                                                                      | 7  |
| 1.   | The Agreed Terms .....                                                                                                                                                                                             | 7  |
| 2.   | “driver” .....                                                                                                                                                                                                     | 7  |
| 3.   | “reflective substrate” and “reflective material” .....                                                                                                                                                             | 10 |
| 4.   | “heat sinking material” and “a heat sink” and “heat . . . sinking material” .....                                                                                                                                  | 12 |
| 5.   | “insulating substrate” .....                                                                                                                                                                                       | 14 |
| 6.   | “package” .....                                                                                                                                                                                                    | 16 |
| 7.   | “switch” .....                                                                                                                                                                                                     | 17 |
| a.   | A Switch is Physical .....                                                                                                                                                                                         | 18 |
| b.   | A Switch is Not Electronic .....                                                                                                                                                                                   | 18 |
| c.   | The Intrinsic Evidence Shows a Switch is Physical .....                                                                                                                                                            | 19 |
| d.   | The Prosecution History Confirms a Switch is Physical .....                                                                                                                                                        | 20 |
| e.   | The Intrinsic Evidence Shows the Switch Has Two or More<br>Electrical Contacts .....                                                                                                                               | 22 |
| f.   | The Intrinsic Evidence Shows that a Switch is Not Limited to<br>Opening and Closing a Circuit.....                                                                                                                 | 23 |
| 8.   | “enable user selection” terms.....                                                                                                                                                                                 | 23 |
| 9.   | “the switch is connected between the AC voltage power source and the<br>LED lighting device” .....                                                                                                                 | 28 |
| 10.  | “forward voltage” and “forward voltages” .....                                                                                                                                                                     | 29 |
| 11.  | “an LED circuit comprising two or more LEDs connected together in a<br>series to match a forward voltage drop of the main AC power source” .....                                                                   | 32 |
| 12.  | “either a rectified DC voltage or a rectified AC voltage wherein the second<br>frequency of the output is a relatively higher frequency than the first<br>frequency of the input” and “rectified AC voltage” ..... | 35 |
| 13.  | “to dim the first LED circuit or the at least one additional LED circuit<br>regardless of a user’s selection via the switch” .....                                                                                 | 38 |
| VI.  | CONCLUSION.....                                                                                                                                                                                                    | 39 |

**TABLE OF AUTHORITIES**

|                                                                                                                                                    | <b>Page(s)</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Cases</b>                                                                                                                                       |                |
| <i>3M Innovative Props. Co. v. Tredegar Corp.</i> ,<br>725 F.3d 1315 (Fed. Cir. 2013).....                                                         | 6              |
| <i>Alliance Packaging LLC v. Smurfit-Stone Container Corp.</i> ,<br>No. C07-112Z, 2008 WL 681843 (W.D. Wash. Mar. 7, 2008).....                    | 31             |
| <i>Bd. of Regents of the Univ. of Texas Sys. v. Benq Am. Corp.</i> ,<br>No. A-05-CA-181SS, 2006 WL 6112210 (W.D. Tex. July 14, 2006) .....         | 32             |
| <i>Bicon, Inc. v. Straumann Co.</i> ,<br>441 F.3d 945 (Fed. Cir. 2006).....                                                                        | 36             |
| <i>Callicrate v. Wadsworth Mfg., Inc.</i> ,<br>427 F.3d 1361 (Fed. Cir. 2005).....                                                                 | 12             |
| <i>CloudofChange, LLC v. NCR Corp.</i> ,<br>6-19-CV-00513-ADA, 2020 WL 4004810 (W.D. Tex. July 15, 2020).....                                      | 10             |
| <i>Comark Commc'ns, Inc. v. Harris Corp.</i> ,<br>156 F.3d 1182 (Fed. Cir. 1998).....                                                              | 6              |
| <i>Cont'l Circuits LLC v. Intel Corp.</i> ,<br>915 F.3d 788 (Fed. Cir. 2019), <i>cert. denied</i> , 140 S. Ct. 648 (2019).....                     | 7, 33          |
| <i>GE Lighting Sols., LLC v. Tech. Consumer Prods., Inc.</i> ,<br>1:12-CV-3127, 2014 WL 4339088 (N.D. Ohio Aug. 29, 2014).....                     | 13             |
| <i>Geneva Pharms., Inc. v. GlaxoSmithKline PLC</i> ,<br>349 F. 3d 1373 (Fed. Cir. 2003).....                                                       | 37             |
| <i>HZNP Medicines LLC v. Actavis Labs. UT, Inc.</i> ,<br>940 F.3d 680 (Fed. Cir. 2019), <i>cert. denied sub nom.</i> , 141 S. Ct. 662 (2020) ..... | 12, 14, 16     |
| <i>Kingspan Insulated Panels Inc. v. Centria GP</i> ,<br>1:15-CV-1023, 2018 WL 1256559 (W.D. Mich. Mar. 12, 2018).....                             | 15             |
| <i>Microsoft Corp. v. i4i Ltd. Partnership</i> ,<br>564 U.S. 91 (2011).....                                                                        | 31             |
| <i>Neutral Tandem, Inc. v. Peerless Network, LLC</i> ,<br>No. 08 C 3402, 2010 WL 446086 (N.D. Ill. Feb. 8, 2010).....                              | 19             |

|                                                                                                                                                                                                                                                                                                                                                            |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <i>On-Line Tech. v. Bodenseewerk Perkin-Elmer</i> ,<br>386 F.3d 1133 (Fed. Cir. 2004).....                                                                                                                                                                                                                                                                 | 32         |
| <i>ParkerVision, Inc. v. Intel Corp.</i> ,<br>No. 6-20-cv-00562 (W.D. Tex. July 23, 2021), ECF No. 61 .....                                                                                                                                                                                                                                                | 19         |
| <i>Phillips v. AWH Corp.</i> ,<br>415 F.3d 1303 (Fed. Cir. 2005) (en banc).....                                                                                                                                                                                                                                                                            | 5, 6, 7, 8 |
| <i>Rothschild Connected Devices Innovations, LLC v. Coca-Cola Co.</i> ,<br>813 Fed. App'x 557 (Fed. Cir. 2020).....                                                                                                                                                                                                                                        | 12         |
| <i>Teleflex, Inc. v. Ficosa N. Am. Corp.</i> ,<br>299 F.3d 1313 (Fed. Cir. 2002).....                                                                                                                                                                                                                                                                      | 6          |
| <i>Thorner v. Sony Comput. Entm't Am. LLC</i> ,<br>669 F.3d 1362 (Fed. Cir. 2012).....                                                                                                                                                                                                                                                                     | 6          |
| <i>Welch Allyn, Inc. v. OBP Corp.</i> ,<br>No. 5:14-CV-1122, 2016 WL 3387272 (N.D.N.Y. June 17, 2016).....                                                                                                                                                                                                                                                 | 19         |
| <b>Other Authorities</b>                                                                                                                                                                                                                                                                                                                                   |            |
| Causes of Ripple Voltage: Power Supply Noise and Transients in Your PDN,<br>NWES, available at <a href="https://www.nwengineeringllc.com/article/causes-of-ripple-voltage-power-supply-noise-and-transients-in-your-pdn.php">https://www.nwengineeringllc.com/article/causes-of-ripple-voltage-power-supply-noise-and-transients-in-your-pdn.php</a> ..... | 36         |
| <a href="https://www.arrow.com/en/research-and-events/articles/understanding-heat-sinks-functions-types-and-more">https://www.arrow.com/en/research-and-events/articles/understanding-heat-sinks-functions-types-and-more</a> .....                                                                                                                        | 2          |
| <a href="https://www.baldengineer.com/led-basics.html">https://www.baldengineer.com/led-basics.html</a> .....                                                                                                                                                                                                                                              | 1, 29      |
| <a href="https://www.britannica.com/technology/electronic-substrate-ceramics">https://www.britannica.com/technology/electronic-substrate-ceramics</a> .....                                                                                                                                                                                                | 2          |
| <a href="https://www.britannica.com/technology/transistor">https://www.britannica.com/technology/transistor</a> .....                                                                                                                                                                                                                                      | 3, 4       |
| <a href="https://www.ledsupply.com/blog/understanding-led-drivers/">https://www.ledsupply.com/blog/understanding-led-drivers/</a> .....                                                                                                                                                                                                                    | 2          |
| <a href="https://www.rohm.com/electronics-basics/ac-dc/rectification">https://www.rohm.com/electronics-basics/ac-dc/rectification</a> .....                                                                                                                                                                                                                | 3          |
| <a href="https://www.techopedia.com/definition/1750/power-conditioner">https://www.techopedia.com/definition/1750/power-conditioner</a> .....                                                                                                                                                                                                              | 2          |
| Merriam-Webster Dictionary .....                                                                                                                                                                                                                                                                                                                           | 14         |
| Rectifier Ripple, I.P. Tech, Inc., available at<br><a href="https://www.nmfr.org/pdf/psf2004/030426.pdf">https://www.nmfr.org/pdf/psf2004/030426.pdf</a> .....                                                                                                                                                                                             | 35         |
| U.S. Patent No. 6,781,329.....                                                                                                                                                                                                                                                                                                                             | 25         |

|                                 |               |
|---------------------------------|---------------|
| U.S. Patent No. 10,091,842..... | 4, 7, 34, 35  |
| U.S. Patent No. 10,154,551..... | <i>passim</i> |
| U.S. Patent No. 10,349,479..... | <i>passim</i> |
| U.S. Patent No. 10,492,251..... | 4, 7, 10, 11  |
| U.S. Patent No. 10,517,149..... | <i>passim</i> |
| U.S. Patent No. 10,537,001..... | <i>passim</i> |
| U.S. Patent No. 10,652,979..... | <i>passim</i> |
| U.S. Patent No. 10,757,783..... | <i>passim</i> |
| U.S. Patent No. 10,932,341..... | <i>passim</i> |

**TABLE OF EXHIBITS**

|           |                                                                                                                                                                                                                                                                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Exhibit A | LED Tutorial, <a href="https://www.baldengineer.com/led-basics.html">https://www.baldengineer.com/led-basics.html</a>                                                                                                                                                                                                                                    |
| Exhibit B | Britannica - electronic substrate and package ceramics, <a href="https://www.britannica.com/technology/electronic-substrate-ceramics">https://www.britannica.com/technology/electronic-substrate-ceramics</a>                                                                                                                                            |
| Exhibit C | Understanding LED Drivers, <a href="https://www.ledsupply.com/blog/understanding-led-drivers/">https://www.ledsupply.com/blog/understanding-led-drivers/</a>                                                                                                                                                                                             |
| Exhibit D | What Are Heat Sinks, <a href="https://www.arrow.com/en/research-and-events/articles/understanding-heat-sinks-functions-types-and-more">https://www.arrow.com/en/research-and-events/articles/understanding-heat-sinks-functions-types-and-more</a>                                                                                                       |
| Exhibit E | Techopedia Power Conditioner, <a href="https://www.techopedia.com/definition/1750/power-conditioner">https://www.techopedia.com/definition/1750/power-conditioner</a>                                                                                                                                                                                    |
| Exhibit F | Full Wave Rectification and Half Wave Rectification, <a href="https://www.rohm.com/electronics-basics/ac-dc/rectification">https://www.rohm.com/electronics-basics/ac-dc/rectification</a>                                                                                                                                                               |
| Exhibit G | Britannica - transistor, <a href="https://www.britannica.com/technology/transistor">https://www.britannica.com/technology/transistor</a>                                                                                                                                                                                                                 |
| Exhibit H | The Characteristics of LED Drivers, LYNK_HD_00005180-86                                                                                                                                                                                                                                                                                                  |
| Exhibit I | Understanding LED Drivers, LYNK_HD_00005187-93                                                                                                                                                                                                                                                                                                           |
| Exhibit J | Underwriters Laboratories Inc. Standard for Safety UL-8750 (2009)                                                                                                                                                                                                                                                                                        |
| Exhibit K | Excerpt of '001 Patent File History, LYNK_HD_00002832-42                                                                                                                                                                                                                                                                                                 |
| Exhibit L | U.S. Patent Publication No. 2013/0093325 to Scarpelli                                                                                                                                                                                                                                                                                                    |
| Exhibit M | Declaration of Alfred Ducharme, PhD                                                                                                                                                                                                                                                                                                                      |
| Exhibit N | Rectifier Ripple, I.P. Tech, Inc., <i>available at</i> <a href="https://www.nmfr.org/pdf/psf2004/030426.pdf">https://www.nmfr.org/pdf/psf2004/030426.pdf</a>                                                                                                                                                                                             |
| Exhibit O | Causes of Ripple Voltage: Power Supply Noise and Transients in Your PDN, NWES, <i>available at</i> <a href="https://www.nwengineeringllc.com/article/causes-of-ripple-voltage-power-supply-noise-and-transients-in-your-pdn.php">https://www.nwengineeringllc.com/article/causes-of-ripple-voltage-power-supply-noise-and-transients-in-your-pdn.php</a> |

## I. INTRODUCTION

Plaintiff Lynk Labs, Inc. (“Lynk”) brought this lawsuit to rectify infringement of a series of patents Lynk was awarded as an early developer of innovations that are now common place in the LED lighting industry. To avoid infringement, Defendants Home Depot USA, Inc., The Home Depot, Inc., and Home Depot Product Authority, LLC (“Defendants” or “Home Depot”) resort to torturing the plain language of the asserted claims, resulting in proposed constructions completely divorced from the intrinsic record and the subject matter of the invention. Worse still, Home Depot claims that many of the terms are indefinite, relying on an improper conclusory expert declaration that parrots Home Depot’s arguments without providing any assistance to the Court regarding the underlying disclosures of the intrinsic record. Home Depot and its expert simply ignore the extensive teachings of the specification to reach their conclusions of indefiniteness.

For its part, Lynk asserts the majority of the terms should be afforded their plain and ordinary meaning to one of skill in the art at the time of the invention with no formal construction necessary. Where Lynk proposes a specific construction, those proposals align, as they must, with the teachings of the intrinsic record, and should be adopted.

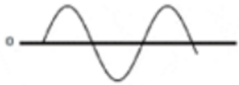
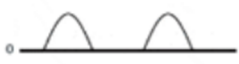
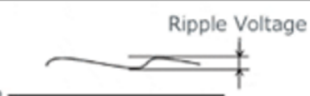
## II. BACKGROUND OF THE TECHNOLOGY

LED lights include one or more light emitting diodes (LEDs) configured to be used as a lighting source. A diode is an electronic component that only conducts electricity in one direction. *See* <https://www.baldengineer.com/led-basics.html>, Ex. A. As used in LED lighting, a LED is a diode that generates visible light when a current flows through the LED. *Id.* The amount of voltage required to be supplied to the LED to cause a current to flow through the LED is referred to as the forward voltage of the LED. *Id.* By varying the current flowing through the LED, the operation of the LED (e.g. the brightness of the LED) can be manipulated. LEDs can

be components mounted to a substrate, such as a circuit board. Additionally, LEDs can be formed by etching or otherwise forming the LED on a substrate. *See* <https://www.britannica.com/technology/electronic-substrate-ceramics>, Ex. B. One or more LEDs and other electrical components can be mounted and/or etched to the substrate to form the electronic circuits that constitute a LED light. The LED light can be powered by a LED driver that regulates power provided to the LEDs such that the LEDs operate within their voltage and current requirements. *See* <https://www.ledsupply.com/blog/understanding-led-drivers/>, Ex. C. These drivers can take AC or DC power as an input and output AC or DC power at the voltage, current, and/or frequency suitable for operating a particular LED or LED circuit. *Id.* During operation, LEDs can create heat in addition to emitting light. LED lights can use heat sinks coupled to the LEDs or the LED circuit to increase the surface area of the LEDs and aid in conducting heat from the LEDs into the surrounding environment. *See* <https://www.arrow.com/en/research-and-events/articles/understanding-heat-sinks-functions-types-and-more>, Ex. D.

While the power provided to the LED light can come from a variety of sources, such as AC power from a mains power supply, a low voltage AC or DC power supply, and/or battery, the LED light can include a variety of components that condition the power received from the power source. Power conditioning includes improving the quality of the power received from the power source, such as removing spikes, surges, noise, and/or frequency irregularities in the received power. *See* <https://www.techopedia.com/definition/1750/power-conditioner>, Ex. E. The power can also be converted from AC to DC or vice versa. Theoretically, AC power can be represented using a sine wave that oscillates between a positive voltage and a negative voltage, while DC power can be represented by a square wave that alternates between a positive (or

negative) voltage and zero. A variety of devices, such as a rectifier, can be used to generate DC power from AC power by cutting off or inverting the negative portion of the AC power to generate a pulsed positive current. *See* <https://www.rohm.com/electronics-basics/ac-dc/rectification>, Ex. F. However, this DC power is not a theoretical DC power signal as the rectified power signal does not immediately drop from the positive voltage to zero. *Id.* A smoothing capacitor can be used to approximate the theoretical DC signal by taking out some but typically not all of the ripple voltage in the generated DC signal. *Id.* The following shows the conversion of an AC power waveform to an approximated DC power waveform and the associated ripple voltage before and after smoothing:

|                                                | Full-Wave Rectification                                                             | Half-Wave Rectification                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Input Voltage Waveform                         |   |   |
| Voltage Waveform After Rectification           |  |  |
| Voltage Waveform After Rectification Smoothing |  |  |

*Id.*

A switch can be actuated by a user to control the flow of current from a power source or driver, and thereby control the operation of a device such as a LED light. For example, a switch can be used to control the current provided to a LED circuit, thereby increasing or decreasing the amount of light generated by the LEDs in the LED circuit. These switches are in contrast to electronic switches, such as transistors or vacuum tubes. For example, Encyclopedia Britannica defines a transistor as a “semiconductor device for amplifying, controlling, and generating electrical signals.” *See* <https://www.britannica.com/technology/transistor>, Ex. G. There are typically three electrical leads in a transistor, a source, a drain, and a gate. *Id.* An electrical signal

applied to the gate influences the semiconductor material's ability to conduct electrical current, which flows between the source and drain. *Id.* A voltage source, such as a battery, drives the current, while the rate of current flow through the transistor at any given moment is governed by an input signal at the gate. *Id.* This input signal can be provided by a processor or other electronic device. In this way, the direct control of the electronic switch is performed by the processor and a user can indirectly control the operation of the electronic switch by providing commands to the processor.

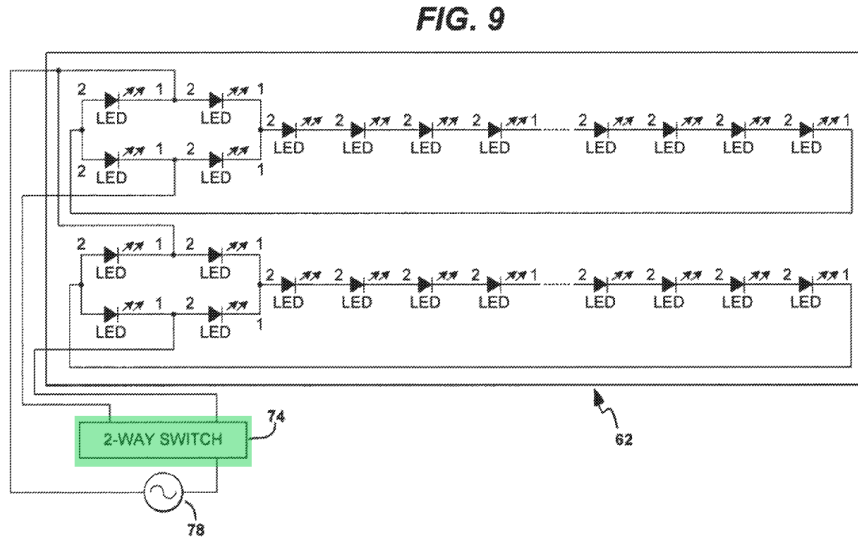
### **III. PATENTS-IN-SUIT**

Lynk has developed and patented pioneering innovations that are now common place in the LED lighting industry including but not limited to: LED lighting systems driven by constant voltage power supplies, smart LED lighting systems, warm dim or warm glow LED lighting devices, LED lighting devices and/or systems allowing users to select the brightness and/or color temperature of light, vintage/filament style LED light bulbs, LED replacement tubes, direct AC mains connected LED assemblies known as driver-on-board, and LED lighting devices with an integrated universal voltage driver.

In view of these contributions to LED lighting technology, Lynk has been awarded many patents, including: U.S. Patent Nos. 10,492,251 (the “251 Patent”) (Dkt. 36-9); 10,757,783 (the “783 Patent”) (Dkt. 36-2); 10,091,842 (the “842 Patent”) (Dkt. 36-10); 10,932,341 (the “341 Patent”) (Dkt. 36-4); 10,537,001 (the “001 Patent”) (Dkt. 36-3); 10,349,479 (the “479 Patent”) (Dkt. 36-5); 10,652,979 (the “979 Patent”) (Dkt. 36-7); 10,154,551 (the “551 Patent”) (Dkt. 36-8); and 10,517,149 (the “149 Patent”) (Dkt. 36-6) (collectively “the Patents-in-Suit”).

The Patents-in-Suit are directed to LED lighting technology, specifically correlated color temperature and brightness selection, integrated driver technology, driver-on-board technology,

filament lighting technology, and smart lighting technology. One example of LED lighting devices described by the Patents-in-Suit is shown in Figure 9 from the '001 and '341 Patents:



On January 29, 2021, Lynk filed this lawsuit against Home Depot for Home Depot's infringement of each of the Patents-in-Suit.

#### IV. LEGAL STANDARD

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). The general rule is that claim terms are given their plain-and-ordinary meaning, which is the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1312–13.

"There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). For the first exception, if the patentee is acting as his own lexicographer, the patentee must "clearly set forth a definition of the disputed claim

term,” and “‘clearly express an intent’ to redefine the term” in either the specification or during prosecution. *Id.* Absent a clear articulation in the specification or prosecution history, this exception cannot apply. For the second exception, the patentee’s statements disavowing the full scope of a claim must represent “‘a clear disavowal of claim scope.’” *Id.* at 1366. A statement is not “a clear disavowal of claim scope,” when “an applicant’s statements are amenable to multiple reasonable interpretations . . .” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

In addition to the claims themselves, the patent’s specification and prosecution history may help in determining the meaning of claim terms; however, improper use of the specification and the prosecution history may lead to misconstruing the meaning of claim terms. “Although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read in the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998). Thus, “the claims must be read in view of the specification, but limitations from the specification are not to be read into the claims.” *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1326 (Fed. Cir. 2002). Additionally, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Phillips*, 415 F.3d at 1317. Finally, while extrinsic evidence “‘can shed useful light on the relevant art,’” it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Id.*

*Thorner’s* discussion of plain and ordinary meaning has been guiding Federal Circuit precedent since its adoption. *See Cont’l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir.

2019), *cert. denied*, 140 S. Ct. 648 (2019). Moreover, the mere fact that a dispute exists between the parties does not require the adoption of Defendants’ limiting constructions, or any explicit construction for that matter. *Id.* Even where a dispute exists, the proper construction can be, and often is, “plain and ordinary meaning.” *Id.*

## V. ARGUMENT

### 1. The Agreed Terms

The parties have agreed that “DC-DC converter” means “device that converts a source of direct current from one voltage level to another (e.g., buck-boost, boost, buck, flyback).” The parties have also agreed that the construction “ac power source at a location or facility” shall apply to the following terms: “mains power source” (’001 patent (claims 15, 16), ’551 patent (claim 1, 3, 4), ’251 patent (claim 13), ’149 patent (claims 1, 5)); “AC mains voltage source” (’783 patent (claims 1, 4)); “mains AC voltage power source” (’979 patent (claims 7, 13)); “mains AC power source” (’979 patent (claim 7)); and “mains voltage power source” (’979 patent (claim 13)).

### 2. “driver”

| Claim Term                                                                                                                                                                                   | Plaintiff’s Proposal       | Defendants’ Proposal                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------|
| “driver”<br>(’551 Patent – claims 1, 3, 4, 5)<br>(’001 Patent – claims 1, 6, 11, 16)<br>(’842 Patent – claims 33, 38, 43)<br>(’979 Patent – claims 7, 13)<br>(’149 Patent – claims 1, 5, 11) | Plain and ordinary meaning | “driver” means “circuitry that supplies an input to another circuit” |

The meaning of “driver” in the context of the claimed invention has a plain meaning, a component that converts or conditions power for use by an LED circuit, as can be discerned from the clear intrinsic record in this case. For its part, Home Depot seeks a construction of the term

that broadens the term “driver” such that it loses all meaning in the context of the claimed invention. Simply, Home Depot’s construction is so broad that it would cover any pass through circuitry—even a wire segment. In doing so, Home Depot does not first examine the intrinsic evidence, but instead relies upon an out-of-context IEEE dictionary definition for the term “driver.” Dkt. 36, Home Depot Opening Claim Construction Brief (“HD Br.”) at 2. This dictionary definition is divorced from the plain and ordinary meaning that the term “driver” would have to a person of ordinary skill in the art. Indeed, as Home Depot concedes, the term “driver” has “many other meanings outside of the relevant field. *Id.* at 3. As such, the specification, not a dictionary, is the best guide to the meaning of the term. *Phillips*, 415 F.3d at 1315.

Turning to the intrinsic evidence, as is the appropriate first step in any claim construction analysis, it does not support Home Depot’s broad construction. The specification makes clear that the claimed driver is responsible for providing a voltage and current to the one or more LED circuits. ’551 Patent at 3:64–65. In numerous other portions of the specification, the inventors make clear that exemplary drivers in certain embodiments relate to providing a current source to the LEDs, not just an “input”:

- “In sum, according to one aspect of the invention, the LED circuits and AC drivers of the present invention permit pre-packaging of the LED portion of the lighting system to be used with standardized drivers (and when necessary full wave rectifiers) of ***known specified voltage and frequency output***.” *Id.* at 5:31–36 (emphasis added).
- “Accordingly, as sometimes referred to herein, drivers according to the invention described as providing ‘relatively constant’ or ‘fixed’ voltage and frequency.” *Id.* at 5:59–61.
- “The LED circuit driver provides a relatively fixed voltage and relatively fixed frequency AC output even with changes to the load using feedback AC voltage regulator circuitry.” *Id.* at 6: 28–31.

The intrinsic record makes clear that the claimed “driver” is a specific component used in LED circuitry. *See also, e.g., id.* at 6:37–59. The meaning of “driver” in this context is plain and distinct from Home Depot’s broad definition.

Extrinsic evidence, in the specific context of LEDs, further supports that Home Depot’s broad construction is inappropriate in this case. For example, a technical article published on eepower.com, entitled “The Characteristics of LED Drivers,” explains that LED drivers provide “a current source circuit to drive the equivalent LED load, obtaining the total required luminous flux.” Ex. H, LYNK\_HD\_00005180 at 5183. The article goes on to explain that LED drivers can be DC or AC drivers. *Id.* Similarly, a White Paper regarding LED drivers published by 1000Bulbs.com confirms, contrary to Home Depot’s assertions, that drivers in the context of LEDs are “specialized devices.” Ex. I, LYNK\_HD\_00005187 at 5188. These specialized devices may be used, for example, to “rectif[y] higher voltage, alternating current to low voltage, direct current.” *Id.* Further, LED drivers “also protect LEDs from voltage or current fluctuations.” *Id.*; *see also, e.g.,* Ex. J, Underwriters Laboratories Inc. Standard for Safety UL-8750 (2009), Light Emitting Diode (LED) Equipment for Use in Lighting (defining LED driver as “a power source that adjusts the voltage or current to LEDs, ranging in complexity from a resistor to a constant voltage or constant current power supply”). This extrinsic evidence comports with the intrinsic record in this case. Consistent with plain and ordinary meaning, a driver is a component that conditions a power input and provides a power output to an LED circuit. All relevant evidence confirms that “driver” in the context of the claims must be viewed from the standpoint of its use in LED circuitry, rather than in vague and broad terms untethered to the contours of the invention.

### 3. “reflective substrate” and “reflective material”

| Claim Term                                                                                  | Plaintiff’s Proposal       | Defendants’ Proposal                                              |
|---------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------|
| “reflective substrate”<br>(’551 Patent – claims 1, 3, 4, 5)<br>(’251 Patent – claims 1, 13) | Plain and ordinary meaning | “reflective substrate” means “substrate that reflects some light” |
| “reflective material”<br>(’149 Patent – claim 1)                                            | Plain and ordinary meaning | “reflective material” means “material that reflects some light”   |

Defendants propose a departure from plain and ordinary meaning for the terms “reflective substrate” and “reflective material” in order to add a purported definition for “reflective.” Construing these terms, however, is entirely unnecessary when “reflective” is a commonly used lay term with a well-understood meaning. *See CloudfChange, LLC v. NCR Corp.*, 6-19-CV-00513-ADA, 2020 WL 4004810, at \*2 (W.D. Tex. July 15, 2020) (“[N]one of these terms are difficult technical terms for which a construction would help the jury understand the meaning of the term. . . . Therefore, the Court need not provide any additional construction.”).

Indeed, the claims and specifications of the relevant patents use the word “reflective” in a manner consistent with that plain and ordinary meaning. *See, e.g.*, ’551 Patent at 17:9–11; ’251 Patent at 17:30–32; ’149 Patent at 17:46–48 (Specification: “The device [] includes a reflective device integrated into the package [] for optimized light dispersion.”); ’551 Patent at 18:52–59 (Claim 1: “A lighting system comprising: . . . the driver, bridge rectifier, at least one capacitor and at least one LED circuit all mounted on a reflective substrate . . . .”); ’251 Patent at 25:17–25 (Claim 1: “An LED lighting system comprising: . . . at least one LED circuit having a plurality of LEDs connected to the output of the LED driver, wherein at least one LED circuit is mounted on a reflective substrate . . . .”); ’149 Patent at 23:12–19 (Claim 1: “A lighting system comprising: . . . a package, wherein the package is a heat sinking reflective material . . . .”).

Figure 63 of the '251 Patent illustrates this plainly. As the specification describes, “FIG. 63 shows a device 2482 comprising individual light emitting diode circuits 2484 on *a flexible printed circuit board having a mirror like reflective material or coating 2488* designed into or on the flexible printed circuit board in an area at least near the light emitting diodes for providing more efficient light output from the circuit board areas surrounding the light emitting diodes by *having the flexible printed circuit board reflect light rather than absorb it.*” ’251 Patent at 24:62–25:3 (emphasis added).

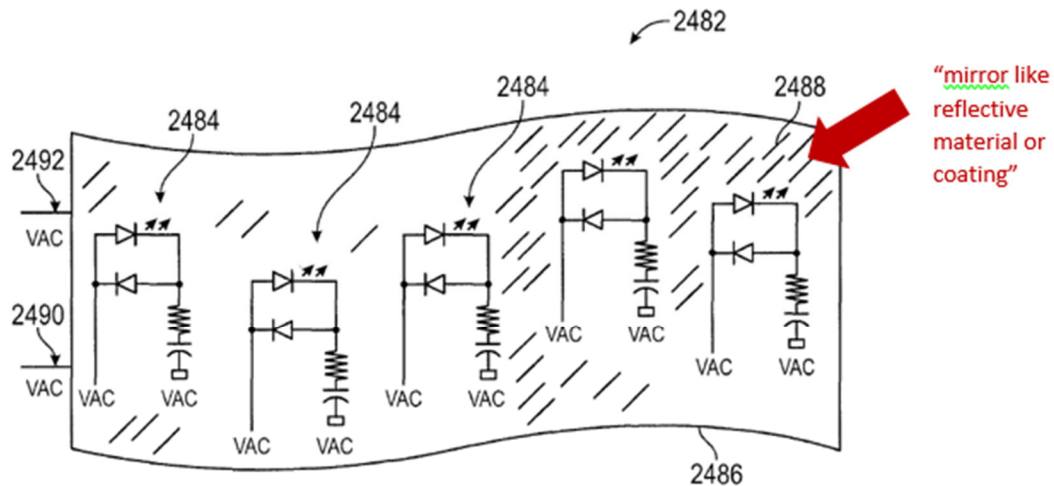


FIG. 63

See also '149 Patent at Fig. 51 and 22:57–64.

Moreover, Defendants' specific proposed constructions are fatally flawed because they render effectively meaningless the terms they purport to construe. Defendants' proposed constructions define “reflective” as “reflects *some* light” (emphasis added). As Home Depot itself recognizes, its construction “does not include a minimum amount of reflectivity.” HD Br. at 4. In other words, “[s]ome light” encompasses *any* amount of light greater than none whatsoever, no matter how marginal that amount of light may be. But practically every material

in existence reflects *some* amount of light. That reflected light is how humans are able to see matter, but it does not make every surface reflective in the ordinary sense of the word. Thus, adopting Defendants’ proposed constructions would inappropriately read the “reflective” modifier out of these terms entirely, leaving references solely to “substrate” or “material.” “This reading would be contrary to the well-established ‘principle that claim language should not [be] treated as meaningless.’” *HZNP Medicines LLC v. Actavis Labs. UT, Inc.*, 940 F.3d 680, 692 (Fed. Cir. 2019), *cert. denied sub nom.*, 141 S. Ct. 662 (2020) (quoting *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 951 (Fed. Cir. 2006)) (alteration in original); *see also, e.g., Callicrate v. Wadsworth Mfg., Inc.*, 427 F.3d 1361, 1369 (Fed. Cir. 2005) (rejecting as too broad a district court construction that “reads out the ‘preformed’ limitation and thus transforms the limitation into simply an ‘endless loop’”); *Rothschild Connected Devices Innovations, LLC v. Coca-Cola Co.*, 813 Fed. App’x 557, 562 (Fed. Cir. 2020) (rejecting party’s proposed construction because it “reads out the term ‘interface’ in ‘user interface module’”).

Accordingly, the Court should accord these terms their plain and ordinary meaning and decline Defendants’ unjustified invitation to issue an unnecessary and erroneous claim construction.

#### 4. “heat sinking material” and “a heat sink” and “heat . . . sinking material”

| Claim Term                                               | Plaintiff’s Proposal       | Defendants’ Proposal                                                   |
|----------------------------------------------------------|----------------------------|------------------------------------------------------------------------|
| “heat sinking material”<br>(’551 Patent – claim 4)       | Plain and ordinary meaning | “heat sinking material” means “material that conducts some heat”       |
| “a heat sink”<br>(’001 Patent – claim 16)                | Plain and ordinary meaning | “a heat sink” means “material that conducts some heat”                 |
| “heat . . . sinking material”<br>(’149 Patent – claim 1) | Plain and ordinary meaning | “heat . . . sinking material” means “material that conducts some heat” |

As with the prior term, Defendants’ proposed constructions are unnecessary. “[H]eat sink” is a commonly used and understood phrase, for which even the lay, non-technical Merriam-Webster dictionary provides a definition. *See* HD Br. Ex. 12; *see also GE Lighting Sols., LLC v. Tech. Consumer Prods., Inc.*, 1:12-CV-3127, 2014 WL 4339088, at \*7 (N.D. Ohio Aug. 29, 2014) (“The Court agrees . . . that the term ‘heat sink’ . . . is a term that a person of ordinary skill in the art after reviewing the intrinsic record at the time of the invention would not need defined. The Court . . . finds that . . . the term ‘heat sink’ . . . requires no construction. Further explanation is not necessary to aid the Court or the jury in understanding the term as written.”).

Home Depot does not suggest, and there is no indication in the intrinsic evidence that, the relevant Patents use these terms in any manner other than with their plain and ordinary meaning. *See, e.g.*, ’551 Patent at 19:1–2 (Claim 4: “The lighting system of claim 1, wherein the substrate is a heat sinking material”); ’001 Patent at 14:8–28 (Claim 16: “An LED lighting device comprising: . . . a first operating LED circuit and at least one additional LED circuit, . . . wherein the first operating LED circuit and the at least one additional LED circuit are mounted on a substrate including a heat sink.”); ’149 Patent at 23:12–19 (Claim 1: “A lighting system comprising: . . . a package, wherein the package is a heat sinking reflective material . . .”). Thus, they require no further construction.

Defendants’ proposed constructions, in turn, are erroneous because they effectively erase claim language. Defendants’ proposed constructions define heat sinking material as material that “conducts *some* heat.” Defendants’ Construction, *supra* (emphasis added). As with the “reflective” terms, “some heat” encompasses *any* amount of heat greater than none whatsoever, and Home Depot again argues that heat sinking “does not require any minimum degree of heat

transfer.” HD Br. at 6. Nearly every material conducts at least *some* amount of heat, but a material conducting only marginal amounts of heat would not qualify as heat sinking material under any reasonable construction of the term.<sup>1</sup> Thus, adopting Defendants’ proposed constructions would remove the concept of a heat sink out of these terms entirely, leaving references functionally meaning just “material.” This in turn would inappropriately render meaningless claim language plainly distinguishing between “reflective” material and “heat sinking” material or specifying that a material be both “reflective” and “heat sinking.” *See HZNP Medicines*, 940 F.3d at 692.

Accordingly, the Court should reject Defendants’ proposed constructions, adopt Plaintiff’s proposal, and accord these terms their plain and ordinary meaning.

#### 5. “insulating substrate”

| Claim Term                                                                                               | Plaintiff’s Proposal       | Defendants’ Proposal                                                                |
|----------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|
| “insulating substrate”<br>(’979 Patent – claim 7)<br>(’149 Patent – claim 11)<br>(’001 Patent – claim 6) | Plain and ordinary meaning | “insulating substrate” means “a substrate that provides some electrical insulation” |

Defendants propose a construction that includes a purported definition for “insulating.” As with the “reflective” and “heat sink” terms, such a definition is simply not needed. “[I]nsulating” is a commonly used and widely understood lay term. The intrinsic evidence confirms the relevant Patents use “insulating substrate” consistent with its plain and ordinary meaning. *See, e.g.*, ’149 Patent at 8:26–28 (Specification: “When desired, the LED circuit with capacitor may be placed on an insulating substrate[] such as but not necessarily ceramic or

<sup>1</sup> In support of their argument that a heat sink need only conduct *some* heat, Defendants cite to the Merriam-Webster Dictionary definition of heat sink, HD Br. at 5, but that citation contradicts Defendants’ argument. Merriam-Webster does not define a heat sink as conducting some unspecified set or amount of heat; rather, it specifies that a heat sink is “a substance of device that absorbs or dissipates *especially unwanted heat*.” Dkt. 36-13 (emphasis added).

sapphire . . .”); ’979 Patent at 2:21–24; ’001 Patent at 2:14–17 (in “description of the related art,” referring to a patent describing “LED based solid-state light emitting device . . . built upon an electrically insulating layer . . .”); ’979 Patent at 2:54–56 (in “description of the related art,” referring to a patent describing that “[t]he electrical insulation between small LEDs within a single-chip is achieved by etching light emitting materials into the insulating substrate...”); ’979 Patent at 22:36–47 (Claim 7: “An LED lighting system . . . wherein the driver integrated circuit, the bridge rectifier, the capacitor, and the LEDs are all mounted on a single insulating substrate”); ’149 Patent at 24:4–6 (Claim 11: “A lighting system comprising: at least one LED circuit having a plurality of LEDs mounted on an insulating substrate . . .”); ’001 Patent at 12:46–67 (Claim 6: “A multi-brightness LED lighting device . . . wherein the first LED circuit and the at least one additional LED circuit are mounted on an insulating substrate.”); *see also Kingspan Insulated Panels Inc. v. Centria GP*, 1:15-CV-1023, 2018 WL 1256559, at \*8 (W.D. Mich. Mar. 12, 2018) (according “insulating body” its plain and ordinary meaning and declining to adopt construction where “nothing in the claim language or the specification suggests that the term . . . has a special meaning; it is a body that insulates”).

Defendants’ attempt to argue that a construction is needed because “insulating” can have multiple meanings is misplaced. HD Br. At 7–8. Although in the abstract “insulating” might refer to electrical, thermal, or sound insulation, in the context of the patents at issue—which claim LED lighting systems running on electricity—it is plain, especially to a person of ordinary skill in the art, that “insulating” refers to electrical insulation. Indeed, as Defendants themselves argue, it “would make no sense in the context of the patents for a substrate to be thermally insulating . . . [because a] thermally insulating substrate would directly contribute to a known

problem in the field of art.” HD Br. at 7. Thus, no specific construction beyond plain and ordinary meaning is required.

Moreover, Defendants’ proposed construction is not simply unnecessary; it is erroneous for much the same reason as Defendants’ proposed constructions for the “reflective” and “heat sink” terms are. Defendants’ proposed construction defines “insulating” as “provid[ing] *some* electrical insulation” and Defendants claim “no minimum amount of insulation [is] required.” HD Br. at 8 (emphasis added). But “[s]ome” electrical insulation encompasses *any* amount of electrical insulation, even an amount that would be functionally negligible. Thus, adopting Defendants’ proposed construction effectively would erase the “insulating” modifier from the claim language, leaving a reference solely to a generic “substrate.” The language of claims cannot be disregarded in this way. *See HZNP Medicines*, 940 F.3d at 692. Even Defendants’ own citations contradict their argument that no minimum amount of insulation is required for a material to be “insulating”; the Britannica Online Encyclopedia, for instance, specifies that an insulator is a “*poor* conductor” or has “*high* resistance,” not that it is a conductor of any kind or has any amount of resistance. *See* HD Br. at 8 (quoting Dkt. 36-14).

Thus, the plain and ordinary meaning is the appropriate one here, and the Court need not issue any specific construction.

#### 6. “package”

| Claim Term                                                                                   | Plaintiff’s Proposal       | Defendants’ Proposal                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| “package”<br>(’979 Patent – claim 13)<br>(’149 Patent – claim 1)<br>(’001 Patent – claim 11) | Plain and ordinary meaning | “package” means “an integrated unit meant to be used as a discrete component in either of the manufacture, assembly, installation, or modification of an LED lighting device or system” |

Home Depot asserts that the term “package” has an express definition in the context of the asserted claims, yet its proposed construction only includes *part* of that definition. In particular, the specifications explain that:

It should be noted that “package” or “packaged” is defined herein as an integrated unit meant to be used as a discrete component in either of the manufacture, assembly, installation, or modification of an LED lighting device or system. **Such a package includes LED’s of desired characteristics with capacitors and or resistors sized relative to the specifications of the chosen opposing parallel LED’s to which they will be connected in series and with respect to a predetermined AC voltage and frequency.**

’001 Patent at 7:46–54 (emphasis added). Home Depot, however, improperly omits the underlined portion from its proposed construction. Without this addition, Home Depot’s construction is incomplete, defeating the intent of the inventors when they provided the lengthy definition of a “package.” The entirety of the definition of “package”—not just Home Depot’s cherry-picked snippet—in the context of the claimed inventions is consistent with the plain and ordinary meaning of those terms to a person of ordinary skill in the art. Lynk would not object to the Court adopting the entire definition of “package,” but Lynk believes that this definition would be cumbersome to present to a jury. Instead, Lynk respectfully submits that lay people and ordinary artisans alike are capable of handling the word “package” with a plain and ordinary meaning construction.

## 7. “switch”

| Claim Term                                                                                                                                                       | Plaintiff’s Proposal                                                                                                                                                                                                                                                                                                                                       | Defendants’ Proposal                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| “switch”<br>(’783 Patent – claims 1, 4, 8, 11, 16)<br>(’341 Patent – claims 1, 8)<br>(’001 Patent – claims 1, 6, 11, 15, 16)<br>(’479 Patent – claims 9, 11, 15) | “switch” means “a device having at least two or more electrical contacts physically configurable by an end user for changing the device from one contact position to another for the purpose of changing a measurable quantity of light output from an LED circuit”<br><br>In the alternative, plain and ordinary meaning, <i>i.e.</i> , a physical switch | “switch” means “plain and ordinary meaning, <i>i.e.</i> , an electronic or physical device for opening and closing a circuit” |

a. A Switch is Physical

Switch has a meaning in the context of the Patents-in-Suit that limits it to a physical device. Lynk has made clear throughout the prosecution of the Patents-in-Suit that the switch is “physical” and that a user “directly” selects the switch to operate. One of ordinary skill in the art, in light of the specification and prosecution history, would understand switch to be “a device having at least two or more electrical contacts physically configurable by an end user for changing the device from one contact position to another for the purpose of changing a measurable quantity of light output from an LED circuit.”

b. A Switch is Not Electronic

This is in contrast to electronic switches. Electronic switches, such as transistors, operate based on an input signal provided to the electronic switch. As the input signal needs to be generated by a separate device, such as a processor, electronic switches are not “directly” operable by a user. Rather, an electronic switch can only be indirectly operated by a user. One of ordinary skill in the art, in light of the specification and prosecution history, would understand switch to be “a device having at least two or more electrical contacts physically configurable by an end user for changing the device from one contact position to another for the purpose of changing a measurable quantity of light output from an LED circuit.”

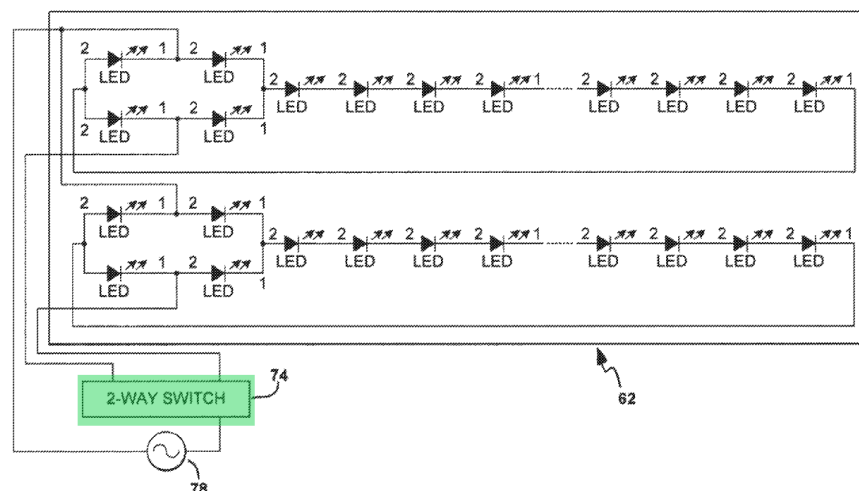
Home Depot asserts that “switch” has a plain and ordinary meaning as construed in various patent infringement cases. HD Br. at 10–11. But not one of those cases construed this purported “plain and ordinary meaning” of switch in the same way. Some constructions involve purely mechanical devices, while others encompass electronic devices. *Compare Welch Allyn, Inc. v. OBP Corp.*, No. 5:14-CV-1122, 2016 WL 3387272, at \*1 (N.D.N.Y. June 17, 2016) (“a lever, plug, or other device for making or breaking contact, or altering the connections of a circuit”) with *ParkerVision, Inc. v. Intel Corp.*, No. 6-20-cv-00562 (W.D. Tex. July 23, 2021),

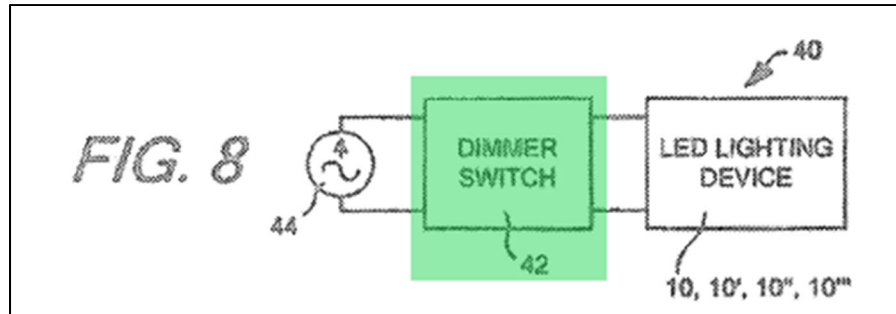
ECF No. 61 (“an electronic device for opening and closing a circuit as dictated by an independent control input”). Some constructions involve only opening and closing a circuit while others contemplate selecting a circuit or changing the connection in a circuit. *Compare Welch Allyn*, 2016 WL 3387272, at \*1, with *Neutral Tandem, Inc. v. Peerless Network, LLC*, No. 08 C 3402, 2010 WL 446086, at \*4 (N.D. Ill. Feb. 8, 2010) (“a device, including mechanical, electrical, electronic or optical devices, which opens or closes circuits, completes or breaks a path, or selects paths or circuits”).

c. The Intrinsic Evidence Shows a Switch is Physical

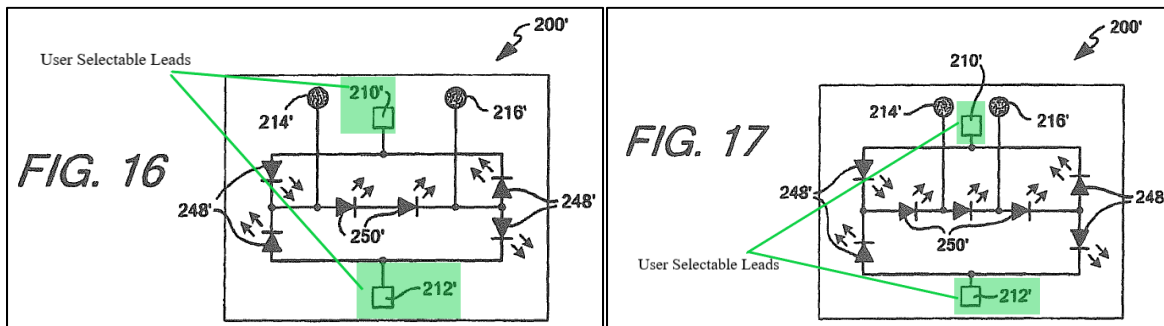
Home Depot argues that switch should be broadly construed, such that it can be any “type of switch known in the art.” HD Br. at 11. However, the specifications of the Asserted Patents and prosecution histories are replete with examples of Lynk describing a switch as a physical device and distinguishing prior art on this basis. For example, Claim 1 of the ‘341 Patent requires a user to be “switching a switch.” It is impossible for a user to switch an electronic switch, thus making Home Depot’s construction impossible. Below, Figure 9 from the ’001 and ’341 Patents displays a physical switch (60) that a user selects or controls, and Figure 8 of the ’479 and ’783 Patents identifies a dimmer switch (42) which is a physical switch a user selects or controls.

**FIG. 9**





The switch of the '001 and '341 Patents is a physical switch intended to be physically manipulated. “The multi-brightness single chip AC LED operates on a switch having at least two positions each of which is connected to at least one circuit within the multi-brightness single chip AC LED.” '001 Patent at 7:42–45. In the '479 Patent, Figures 16 and 17 show that the user selectable leads can only be changed with a switch.



The “dimmer switch” of the '479 and '783 Patents is described as a switch that is physically manipulated. “As the dimmer switch is continually *turned up* and the light emitted by circuit 14 increases, the intensity of the light emitted by device 10 will increase while the color temperature decreases.” '783 Patent at 17:43–46 (emphasis added). In addition, dependent claim 13 of the '479 Patent includes, for the first time, the limitation that the LED system “comprises at least one transistor.” '479 Patent at 20:36–37. This language in the dependent claim implies that the switch of independent claim 9, from which claim 13 depends, is not electronic.

d. The Prosecution History Confirms a Switch is Physical

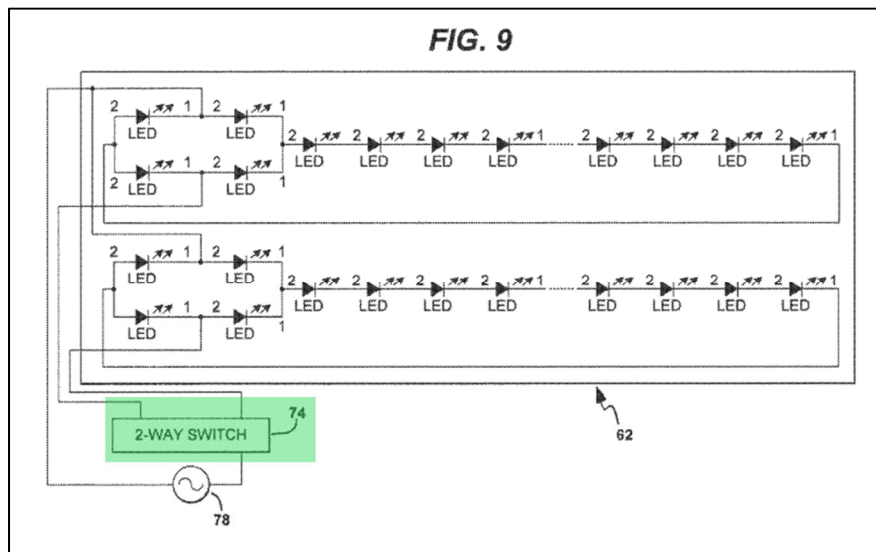
During the prosecution of the '001 Patent, Lynk argued against a rejection relating to the claim term switch, stating that “[t]here is no switch in the [prior art reference] that a user can physically control . . .” Ex. K, LYNK\_HD\_00002840. During prosecution of the '783 Patent, Lynk amended claim 1 to “a physical switch integrated into a package . . . the physical switch being controlled by an end user.” Dkt. 36-27, LYNK\_HD\_00003246. This amendment was intended to make it clear that the switch was controlled by an end user, hence the description of the switch as physical. The focus of this amendment was on the “end user” part of the limitation, and was meant to differentiate the user’s actions from a processor, for example, as disclosed in the prior art. *Id.* Notably, after an interview with the Examiner, Lynk amended its claims to replace the “physical switch” with language indicating the switch is integrated into the LED lighting device because “[i]t was proposed during the interview to provide more context as to what is meant by a switch of an LED lighting device.” Dkt. 36-28, LYNK\_HD\_00003397. The “physical” nature of the switch did not change in this claim amendment.

Similarly, during the prosecution of the '479 Patent, Lynk argued that the switch of Shteynberg (U.S. Patent Publication No. 2012/0081009) “is not controlled by a user” but rather in an indirect manner by a controller, in order to overcome a rejection based on this reference. Dkt. 36-18, LYNK\_HD\_00001303. Because the switch is physical, not electronic, the controller of Shteynberg could not be controlled by a user. Although Lynk maintained its position that the switch controlled by a user meant direct control, not through a controller or processor, it ultimately cancelled the specific claims rejected by the Examiner. Dkt. 36-31, LYNK\_HD\_00001429. Home Depot neglects to mention in its brief, however, that the Examiner allowed a previously presented claim (as well as a new claim) directed to a switch configured to be controlled by an end user - one that the Examiner previously rejected as being taught by

Shteynberg. Compare Dkt. 36-29, LYNK\_HD\_00001328 with Dkt. 36-25, LYNK\_HD\_00001395–96. This allowed claim, claim 20, recites “a switch configured to be controlled by an end user . . .” Dkt. 36-25, LYNK\_HD\_00001395–96. The Examiner allowed new claim 34 which recites “a first switch configured to be controlled by a user . . .” *Id.*

e. The Intrinsic Evidence Shows the Switch Has Two or More Electrical Contacts

The '341 Patent demonstrates that a switch has two or more electrical contacts. Figure 9 “discloses a schematic diagram the multi-brightness LED device 62 as shown above in FIG.8 with a switch 74 electrically connected between the multi-brightness LED lighting device 62 and the AC voltage source 78”:



'341 Patent at 11:36–39 (emphasis added).

The '001 Patent identifies at least two electrical connections on the switch. “The multi-brightness single chip AC LED operates on a switch having *at least two positions each of which is connected to* at least one circuit within the multi-brightness single chip AC LED.” '001 Patent at 7:42–45 (emphasis added). As explained above, Home Depot ignores the clear teachings of all of the patent specifications that the switch is physical and has electrical contacts that are physically configurable by the user.

f. The Intrinsic Evidence Shows that a Switch is Not Limited to Opening and Closing a Circuit

Home Depot also ignores the clear teachings of the patent specifications because switch is not limited to “opening and closing a circuit.” The Patents-in-Suit are directed to LED devices wherein the brightness level and the voltage can be adjusted at the same time. Thus, the switch or switches of the device allow for more than two contact positions, similar to three way switches, as well as switches that allow for changing the quantifiable light output from individual LEDs as well as changing the entire output of the device. ’001 Patent at 10:18–23 (“The at least two AC LED circuits have electrical contacts . . . and can be used to electrically configure and/or control the operating voltage and/or brightness level of the multi-voltage and/or multi-brightness LED lighting device.”). Thus, in the context of the intrinsic evidence, a switch changes “the device from one contact position to another for the purpose of changing a measurable quantity of light output from an LED circuit.” Home Depot’s proposed construction should be rejected because it ignores the teachings of the patents and prosecution history, and is at once overly broad because it impermissibly includes “electrical” switches, and at the same time overly narrow because it limits the switch to a switch with only two contact positions.

**8. “enable user selection” terms**

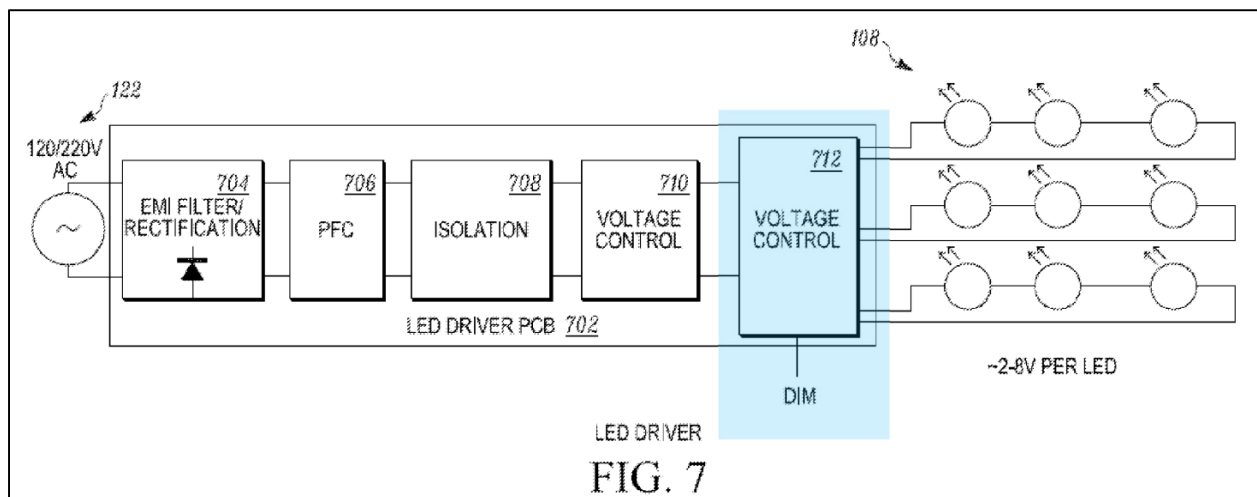
| <b>Claim Term</b>                                                                                      | <b>Plaintiff’s Proposal</b>                                                                            | <b>Defendants’ Proposal</b>                                                                                          |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| “enable user selection”<br>(’783 Patent – claims 1, 4, 8, 11, 16)                                      | “enable user selection” means<br>“enable a user to directly select”                                    | “enable user selection” means<br>“enable a user to directly or indirectly select”                                    |
| “selectable by a user switching the switch”<br>(’341 Patent – claims 1, 8)<br>(’001 Patent – claim 16) | “selectable by a user switching the switch” means “selectable by a user directly switching the switch” | “selectable by a user switching the switch” means “selectable by a user directly or indirectly switching the switch” |
| “selectable by a user”<br>(’001 Patent – claims 1, 6)                                                  | “selectable by a user” means<br>“selectable by a user directly”                                        | “selectable by a user” means<br>“selectable by a user directly or indirectly”                                        |
| “switching of the switch is selectable by a user”                                                      | “switching of the switch is selectable by a user” means                                                | “switching of the switch is selectable by a user” means                                                              |

| Claim Term                                                         | Plaintiff's Proposal                                                                           | Defendants' Proposal                                                                                         |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| ('001 Patent – claim 11)                                           | “switching of the switch is directly selectable by a user”                                     | “switching of the switch is directly or indirectly selectable by a user”                                     |
| “configured to be controlled by a user”<br>(’479 Patent – claim 9) | “configured to be controlled by a user” means “configured to be controlled directly by a user” | “configured to be controlled by a user” means “configured to be controlled directly or indirectly by a user” |

Home Depot correctly describes the dispute over these terms as “whether these phrases require the user to ‘directly’ select, switch, or control the claimed functionality.” HD Br. at 15. Home Depot’s proposed constructions, however, ignore the teachings of the Patents-in-Suit as a whole and impermissibly broaden the scope of the claims.

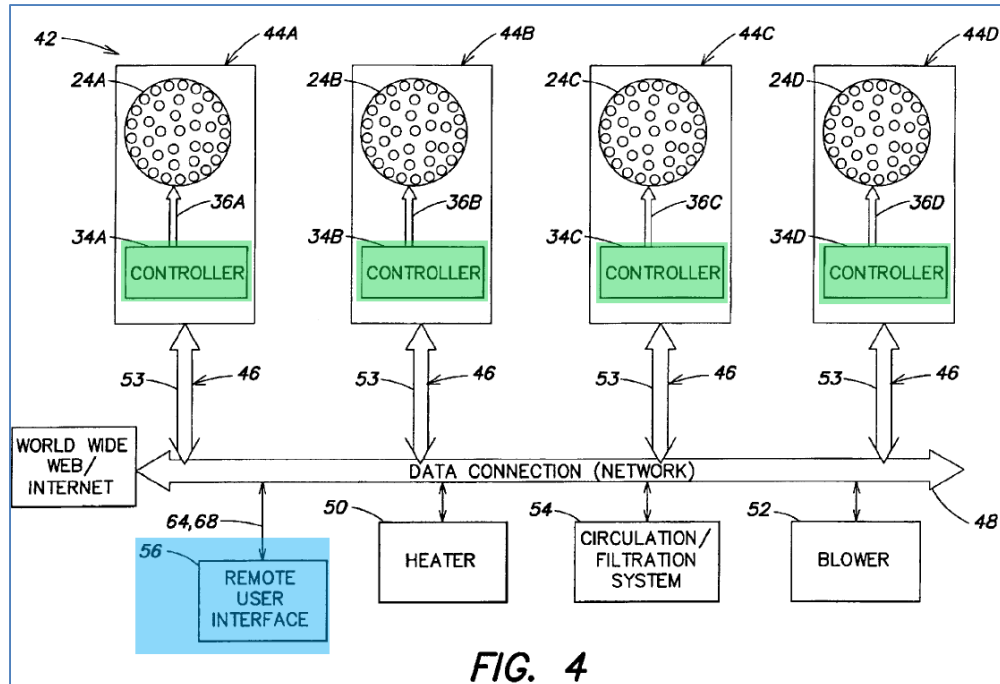
The specification of the ’001 Patent explains that the invention is directed to a multi-voltage and/or multi-current circuit integrated on a single substrate. ’001 Patent at 4:54–57. Within this device, a direct connection exists between the switch and the circuit. For example, the specification explains that “[t]he multi-brightness single chip AC LED operates on a switch having at least two positions each of which is connected to at least one circuit within the multi-brightness single chip AC LED.” *Id.* at 7:42–45; 11:36–39 (“FIG. 9 discloses a schematic diagram the multi-brightness LED lighting device 62 as shown above in FIG. 8 with a switch 74 electrically connected between the multi-brightness LED lighting device 62 and the AC voltage source 78.”). Accordingly, when a user makes a selection, that selection directly carries out the particular function. *Id.* at 3:12–19 (discussing a “switching means” for connecting or disconnecting circuits). *See also* ’341 Patent at 3:12–19 (same); 7:3–8 (same); ’783 Patent at 12:18–21 (“connection leads for connecting the device to an AC power source, like for example mains power or a switch”); ’479 Patent at 8:67–9:3 (same). The specifications of the Patents-in-Suit do not disclose an “indirect” manner for the user to make a selection.

Home Depot argues that a dimmer switch is evidence of indirect control in that “a user can indirectly control the selection.” HD Br. at 15–16. A dimmer switch does not function in this manner. A dimmer switch is directly connected to a lighting device, unlike examples of prior art references discussed below. During the prosecution history of the ’479 and ’783 Patents, Lynk repeatedly distinguished prior art teaching an indirect selection. For example, during the prosecution of the ’783 Patent, Lynk distinguished a dimming function 712 on a control circuit of Scarpelli (U.S. Patent Publication No. 2013/0093325, Ex. L), shown in Figure 7 below:



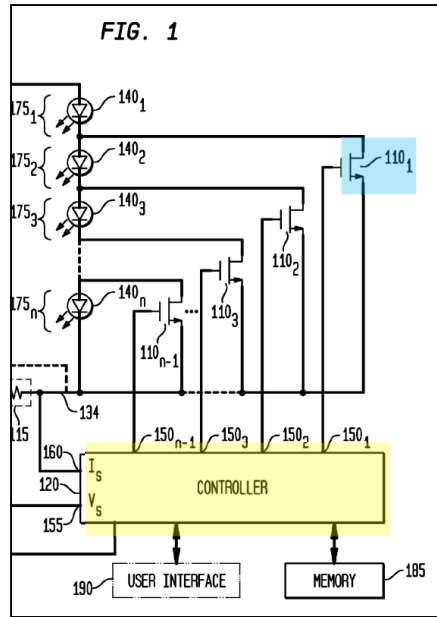
from a “switch that is controlled by an end user” because it did not teach a switch to implement this function, i.e., the user could not make a direct selection to carry out the function. Dkt. 36-27, LYNK\_HD\_00003245.

Lynk also distinguished the “user interface” of U.S. Patent No. 6,781,329 to Mueller, excerpt from Figure 4 below:



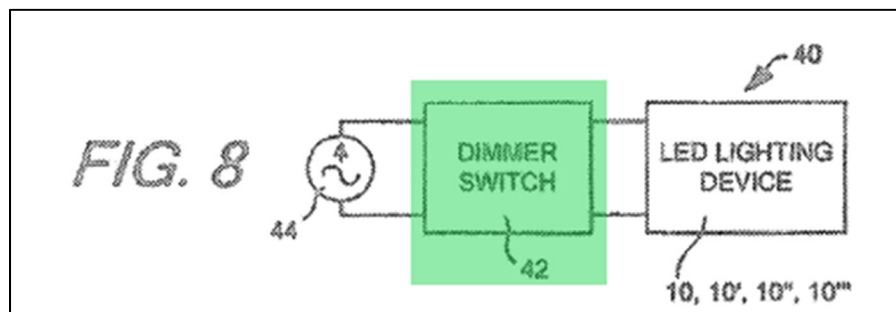
on the basis that user interface was “remote” and could not be a “switch that is controlled by an end user.” Dkt. 36-27, LYNK\_HD\_00003245-47. Again, the user could not make a direct selection to carry out the function. Lynk amended independent claim 1 to clarify that the switch was “physical” in an attempt to make it clear that the switch is controlled by the user as opposed to a processor, as disclosed in the prior art. *Id.* at LYNK\_HD\_00003246. Notably, after an interview with the Examiner, Lynk amended its claims to replace the “physical switch” with language indicating the switch is integrated into the LED lighting device because “[i]t was proposed during the interview to provide more context as to what is meant by a switch of an LED lighting device.” Dkt. 36-28, LYNK\_HD\_00003397. The “physical” nature of the switch did not change in this claim amendment, contrary to Home Depot’s argument.

During the prosecution history of the ’479 Patent, Lynk distinguished the claimed invention from an LED lighting system in Shteynberg (U.S. Patent Publication No. 2012/0081009, excerpt shown below) wherein the switch was not controlled by a user, but controlled in an indirect manner by a “controller.” Dkt. 36-18, LYNK\_HD\_00001303.



Although Lynk maintained its position that the switch controlled by a user meant direct control, not through a controller or processor, it ultimately cancelled the specific claims rejected by the Examiner. Dkt. 36-31, LYNK\_HD\_00001429. Although Home Depot presents this fact as supporting its claim interpretation, Home Depot neglects to mention that the Examiner allowed a claim that was previously rejected under Shteynberg for the same reasons discussed above. *Compare* Dkt. 36-29, LYNK\_HD\_00001328, with Dkt. 36-25, LYNK\_HD\_00001395–96. This allowed claim, claim 20, recites “a switch configured to be controlled by an end user . . .” Dkt. 36-25, LYNK\_HD\_00001395-6. The Examiner also allowed new claim 34 which recites “a first switch configured to be controlled by a user . . .” *Id.*

As illustrated in Figure 8 of the ‘479 Patent below,



a dimmer is typically directly connected to a lighting device. The idea of the ‘001 and ‘479 patent family was to differentiate complicated lighting devices/systems in which intermediate control circuitry made lighting selections, something Lynk repeatedly distinguished in prosecution. Simply, in the case of Lynk’s patents, the user is always physically adjusting a switch of some kind, resulting in a direct change to the LED circuit output. What is not and cannot be covered by the claims are indirect, downstream effects on LED circuit output under processor control (contrasted with user control).

**9. “the switch is connected between the AC voltage power source and the LED lighting device”**

| <b>Claim Term</b>                                                                                                    | <b>Plaintiff’s Proposal</b> | <b>Defendants’ Proposal</b> |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|
| “the switch is connected between the AC voltage power source and the LED lighting device”<br>(’341 Patent – claim 4) | Plain and ordinary meaning  | Indefinite                  |

Home Depot’s argument rests on the faulty assertion that “it is impossible for ‘the switch’ to be part of a ‘the LED lighting device’ as required by independent claim 1 and be connected between that ‘LED lighting device’ and something else as required by dependent claim 4.” HD Br. at 19. A simple example illuminates the fallacy of Home Depot’s position: an arm is a part of a body, and your arm is also between your body and your hand. But this Court need not even resort to this simple example to reject Home Depot’s protestations of indefiniteness. Contrary to Home Depot’s assertions (HD Br. 36 at 20), the specification of the ’341 Patent clearly discloses a switch that is part of an LED lighting device and between that LED lighting device and the power source. For example, Figure 9 “discloses a schematic diagram the multi-brightness LED device 62 as shown above in FIG. 8 with a switch 74 electrically connected between the multi-brightness LED lighting device 62 and the AC voltage source 78.” ’341 Patent at 11:36–39. As



| Claim Term                                     | Plaintiff's Proposal       | Defendants' Proposal             |
|------------------------------------------------|----------------------------|----------------------------------|
| "forward voltages"<br>( '341 Patent – claim 3) | Plain and ordinary meaning | "forward voltages" is indefinite |

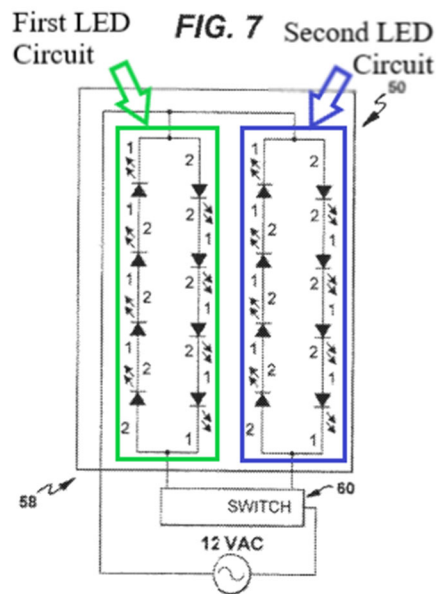
Defendants' proposed construction for "forward voltage" is unnecessary. "[F]orward voltage" is a commonly used and understood phrase in electronics. For instance, an IEEE standards dictionary provides a definition for the term specifically with respect to "rectifiers." *See* Dkt. 36-15, LYNK\_HD\_00005217. Home Depot does not suggest, and there is no indication in the intrinsic evidence that, the relevant Patent uses this term in any manner other than with its plain and ordinary meaning. *See, e.g.,* '001 Patent at 12:29–30 (Claim 1: "wherein the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater"); 12:62–64 (Claim 6: "wherein the first LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater"); 13:29–31 (Claim 11: "wherein the first LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater"); 14:23–25 (Claim 16: "wherein the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater"). The passage from the prosecution history referencing the "Bald Engineer" is generally consistent with the plain and ordinary meaning in the context of the claims under the discussion in the '001 patent. *See* Dkt. 36-17, LYNK\_HD\_00002780 (referring to definition at <https://www.baldengineer.com/led-basics.html>). Thus, the term requires no further construction.

Further, a person of ordinary skill in the art would understand the term "forward voltages" as used in claim 3 of the '341 Patent.<sup>2</sup> The phrase "forward voltages" in the '341 Patent occurs as part of the larger phrase "wherein the switching of the switch provides at least

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<sup>2</sup> The relevant portions of Home Depot's brief appears to refer to claim 4, but Lynk understands that Home Depot's arguments are actually directed at claim 3.

two different DC forward voltages to at least one of the first operating LED circuit or the at least one additional LED circuit.” ’341 patent at 12:30–33. Home Depot argues that this language necessarily requires the provision of at least two different forward voltages to a single LED circuit at a given point in time, which it contends is impossible. But the claim language is clear that the at least two forward voltages are provided to “*at least one of the first operating LED circuit or the at least one additional LED circuit.*” *Id.* (emphasis added). That is, the claimed switching can result in the provision of different forward voltages to the “first operating LED circuit,” the second, “additional LED circuit,” and/or both of them at the same time. Simply, as reflected in, for example, Figure 7 below, the ’341 Patent contemplates a driver that drives different LED circuits depending on a user switch selection:



Different LED circuits, which may be made of different LEDs (e.g., color, sizes, etc.), may have different forward voltages, as the term is used above. Ex. M, Declaration of Alfred Ducharme, PhD (“Ducharme Decl.”), ¶ 18. For example, the switch may, by “switching a voltage level input to at least one of the first operating LED circuit or the at least one additional

LED circuit” or “switching the at least one additional LED circuit on or off” as set forth in Claim 1 (‘341 Patent at 12:18–23), result in the provision of an individual forward voltage to the “first operating circuit,” the “additional LED circuit,” or any further “additional LED circuit,” each of which may well have “different forward voltages” greater than 6V. *See, e.g.*, ‘341 Patent at 7:3–8 (“The . . . AC LED . . . is configured to provide a means of switching on at least one additional single voltage AC LED[.]”). Likewise, the switch could result in the provision of a forward voltage to a combination of multiple LED circuits, which, if wired in series, could have yet another forward voltage. Ex. M, Ducharme Decl. ¶ 18. Thus, consistent with the specification in the drawing above,<sup>3</sup> claim 3 straightforwardly recites that different forward voltages are provided to either the first LED circuit or the additional LED circuit (“at least one”) or both of them (more than one) depending on the user configuration. Home Depot, on the other hand, imagines a hypothetical where different voltages are provided to the same LED circuit. This imagined scenario appears nowhere in the specification, and is not a plausible reading of the claims. Accordingly, Home Depot has not carried its burden by clear and convincing evidence of demonstrating the claims are indefinite. *See Microsoft Corp. v. i4i Ltd. Partnership*, 564 U.S. 91, 95 (2011) (invalidity defenses must be proved by “clear and convincing evidence”).

**11. “an LED circuit comprising two or more LEDs connected together in a series to match a forward voltage drop of the main AC power source”**

| Claim Term                                                                                                                                                          | Plaintiff’s Proposal       | Defendants’ Proposal                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------|
| “an LED circuit comprising two or more LEDs connected together in a series to match a forward voltage drop of the mains AC power source”<br>(‘979 Patent – claim 7) | Plain and ordinary meaning | Indefinite<br><br>“matches” means “equals” |

<sup>3</sup> This disclosure in the specification, among others, also defeats Home Depot’s contention that claim 3 is new matter. *See also, e.g.*, ‘341 Patent at 7:3–8.

Defendants’ proposed construction for “matches” is unnecessary and incorrect. “Matching” is a commonly used and understood concept in electronics and otherwise. Home Depot, however, attempts to read an element of perfect equivalence into the term that is simply not contemplated by the relevant claim. *See Alliance Packaging LLC v. Smurfit-Stone Container Corp.*, No. C07-112Z, 2008 WL 681843, at \*11 (W.D. Wash. Mar. 7, 2008) (“The claims do not require or otherwise suggest an exact fit, and claim construction principles prohibit adding modifiers to broad claim terms.” citing *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed.Cir.1999)). In support of its construction, Home Depot relies in part on an IEEE dictionary definition in the context of *data items*. *See* HD Br. at 23–24. While data transfer, where precision is necessary for complete messages, may indeed contemplate a one-to-one equivalence, the term, as used in everyday language and in most contexts, does not:

Defendants’ argument that “matching” requires an identity of items is incorrect. The Court agrees with the Special Master that only a correspondence need occur for matching to take place. For one thing, in everyday usage, ordinary speakers of English often use the term “match” to describe a simple correspondence rather than an exact identity of items. For instance, a particular belt may be said to “match” a pair of shoes, even though there are numerous obvious differences between the items. *Cf.* AM. COLLEGE HERITAGE DICTIONARY 853 (4th ed.2002) (defining “match” alternatively as “[t]o be exactly like; to correspond exactly to” and “[t]o be like *with respect to specified qualities*”) (emphasis added); MERRIAM–WEBSTER ONLINE DICTIONARY, “match” (2005–06), <http://m-w.com/dictionary/match> (listing the following relevant definitions of the verb form of match: “to put in a set possessing equal or harmonizing attributes;” “to cause to correspond;” “to be the counterpart of;” “to compare favorably with;” “to harmonize with;” and “to provide with a counterpart”).

*Bd. of Regents of the Univ. of Texas Sys. v. Benq Am. Corp.*, No. A-05-CA-181SS, 2006 WL 6112210, at \*20 (W.D. Tex. July 14, 2006). Moreover, even if some level of equivalence were required, a person of ordinary skill in the art would understand that, with respect to electronics and other practical applications, “matching” typically involves consideration of engineering tolerances. *See On-Line Tech. v. Bodenseewerk Perkin-Elmer*, 386 F.3d 1133, 1140 (Fed. Cir.

2004) (accounting for “machining tolerance” in rejecting construction of claim requiring perfection associated with “mathematical concept”).

Notably, construing “match” to not require the level of equivalence Home Depot writes into the term does not, as Home Depot contends, “render the term superfluous” with respect to Claim 2 of the ’979 Patent in light of Claim 1 of the ’979 Patent. While claim 1 describes the relationship of the relevant “DC voltage output” and “AC voltage” with respect to the claimed “LED driver circuit,” it does not capture the nature or extent of any correspondence or numerical similarity between the two voltages. *See* ’979 Patent at 22:2–24. Likewise, Home Depot overstates the significance of an embodiment in the ’979 Patent’s specification where the voltage output is “equal” to the mains input. HD Br. at 24–25. As a matter of law, reading an embodiment into a claim element is the “cardinal sin” of claim construction. *Cont’l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 799 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 648, 205 L. Ed. 2d 390 (2019) (refusing to read limitation into claim based on preferred embodiment). Moreover, the specification uses the words “match” and “equal” at various places differently, suggesting that the words are not synonyms in the patent. ’979 Patent at 21:16–21 (“Accordingly, an alternating electric field is provided to a transmission conductor by a signal generator that provides a first voltage level output *equal* to that provided by the signal generator.” (emphasis added)). The term should be afforded its plain and ordinary meaning.

Home Depot’s argument that the claim term is indefinite because a mains AC power source does not have a forward voltage drop is also demonstrably incorrect. A person of ordinary skill in the art would understand that the infrastructure associated with mains AC power includes numerous voltage step-downs (i.e., voltage drops). Ex. M, Ducharme Decl. ¶ 19. For instance, overhead power transmission lines contain transformers that drop the initial launch voltage from

the electric utility company to a lower level before it reaches an industrial, commercial, or residential building. *Id.* Additional transformers then drop the voltage to a standard level usable for devices used at the building. *Id.* Accordingly, Home Depot has not established that the relevant claim is indefinite by clear and convincing evidence.

**12. “either a rectified DC voltage or a rectified AC voltage wherein the second frequency of the output is a relatively higher frequency than the first frequency of the input” and “rectified AC voltage”**

| Claim Term                                                                                                                                                                                                   | Plaintiff’s Proposal       | Defendants’ Proposal                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| “either a rectified DC voltage or a rectified AC voltage wherein the second frequency of the output is a relatively higher frequency than the first frequency of the input”<br>(’842 Patent – claims 33, 38) | Plain and ordinary meaning | Indefinite<br><br>“rectified AC voltage” means “a voltage output from a rectifier with a frequency”<br><br>“rectified DC voltage” means “a voltage output from a rectifier without a frequency” |
| “rectified AC voltage”<br>(’551 Patent – claims 1, 3, 4, 5)                                                                                                                                                  | Plain and ordinary meaning | “rectified AC voltage” means “a voltage output from a rectifier with a frequency”                                                                                                               |

Defendants’ proposed constructions for “rectified AC voltage” and “rectified DC voltage” are unnecessary. The terms are commonly used and understood phrases in electronics. Ex. M, Ducharme Decl. ¶ 20. Home Depot does not suggest, and there is no indication in the intrinsic evidence that, the relevant Patents use these term in any manner other than with its plain and ordinary meaning. Instead, Home Depot proffers the declaration of its expert in an attempt to construe the terms in such a way to manufacture a contradiction in the relevant claim language and render the claims 33 and 38 of the ’842 Patent indefinite. More specifically, Home Depot creates a false dichotomy by proposing that the defining distinction between a “rectified AC voltage” and “a rectified DC voltage” is the presence or absence of a frequency, respectively. However, a person of ordinary skill in the art would understand the concept of rectifier ripple.

Ex. M, Ducharme Decl. ¶ 21. That is, even a “rectified DC voltage” has some residual periodic variation (*i.e.* a frequency) from the original mains AC power source—a “pure” rectified DC output is impossible. Ex. M, Ducharme Decl. ¶¶ 21-23; *See also* Ex. N, Rectifier Ripple, I.P. Tech, Inc., *available at* <https://www.nmfr.org/pdf/psf2004/030426.pdf> (“Simply stated, ripple is the percentage of AC current that is passed through by a rectifier on the way to the process.”). In other words, Home Depot’s proposed construction of “rectified AC voltage” improperly captures what a person of ordinary skill would consider to be DC voltage, and its definition of “rectified DC voltage” would fail to capture DC voltage in practice.

The intrinsic record further refutes Home Depot’s proposed construction. The claims of the ’842 Patent and the ’551 Patent themselves contemplate the use of a smoothing capacitor, which is a component designed to address ripple. *See, e.g.*, ’842 Patent at 18:22–26 (Claim 2: “wherein the at least one LED circuit comprises at least one capacitor connected to the LED driver, wherein the at least one capacitor smooths the output of the second voltage delivered to the at least one LED circuit”; 18:58–62 (Claim 8: “wherein the capacitor smooths the DC voltage and the DC current delivered to the at least one LED circuit”; 20:34–36 (Claim 26: “wherein the capacitor smooths a waveform of the second rectified AC voltage and provides DC voltage and DC current to the at least one LED circuit); 20:58–59 (Claim 29: “the at least one capacitor smoothing a waveform of the rectified and regulated second voltage”); ’551 Patent at 19:14–16 (Claim 5: “the at least one capacitor connected to the at least one LED and smoothing the rectified AC voltage waveform”); 23:16–18 (Claim 35: “wherein the at least one capacitor connected to the LED circuit smooths the AC waveform and reduces ripple”). Indeed, the specification for each of the patents similarly contemplates the use of a smoothing capacitor: “In order to protect the LED circuit from voltage spikes a capacitor may be connected across the

inputs of the bridge rectifier. The capacitor may also be used for smoothing the AC waveform to reduce ripple.” ’842 Patent at 4:7–11; ’551 Patent at 4:49–51. As claimed in the patent, a smoothing capacitor is ordinarily connected to a bridge rectifier and smooths the waveform of the rectified AC voltage and resulting in a filtered DC voltage with less (but still some) ripple:

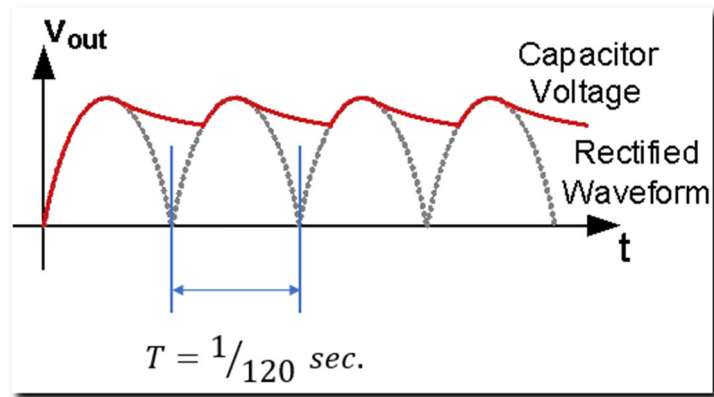


Fig. 1: Ripple voltage from a rectifier bridge with a smoothing capacitor.

Ex. M, Ducharme Decl. ¶ 23; *see also* Ex. O, Causes of Ripple Voltage: Power Supply Noise and Transients in Your PDN, NWES, *available at* <https://www.nwengineeringllc.com/article/causes-of-ripple-voltage-power-supply-noise-and-transients-in-your-pdn.php>.

Stated otherwise, the use of a smoothing capacitor necessarily implies that the relevant “rectified DC voltage” has some ripple and thus a corresponding frequency and, even where a smoothing capacitor is used, the resulting filtered “rectified DC voltage” still has a frequency. Therefore, the Court should reject Home Depot’s proposed constructions for “rectified AC voltage” and “rectified DC voltage” because they would render the claim language regarding a smoothing capacitor superfluous. *ee Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[C]laims are interpreted with an eye toward giving effect to all terms in the claims.”). Additionally, adopting a plain and ordinary meaning for the terms that allow for a “rectified DC voltage” with a frequency in the form of ripple avoids the alleged inconsistency between

“rectified DC voltage” and “second frequency.” *See Geneva Pharms., Inc. v. GlaxoSmithKline PLC*, 349 F. 3d 1373, 1384 (Fed. Cir. 2003) (rejecting proposed construction that rendered the term indefinite). Home Depot has not carried its burden with clear and convincing evidence, and, therefore, the terms should be afforded their plain and ordinary meaning, and Home Depot’s indefiniteness argument should be rejected.

**13. “to dim the first LED circuit or the at least one additional LED circuit regardless of a user’s selection via the switch”**

| Claim Term                                                                                                                                            | Plaintiff’s Proposal       | Defendants’ Proposal |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|
| “to dim the first LED circuit or the at least one additional LED circuit regardless of a user’s selection via the switch”<br>(’001 Patent – claim 15) | Plain and ordinary meaning | Indefinite           |

Home Depot argues that this claim term is indefinite because “a dimmer switch cannot operate “regardless” of the user’s selection of the on/off switch.” HD Br. at 28. Home Depot, however, appears to acknowledge that this claim term is definite in the context of a two-switch architecture. *Id.* Home Depot attempts to salvage its argument by asserting that the specification only discloses a one-switch architecture, not a two-switch architecture. *Id.* Not only is this incorrect, it impermissibly seeks to limit the claims to an embodiment of the specification.

Nothing in the specification or prosecution history limits the scope of the claims to a single switch architecture. The specification of the 001 Patent describes LED devices that can be “multi-voltage,” “multi-brightness,” *or both*. *See, e.g.*, ’001 Patent at 4:54–57 (“multi-voltage and/or multi-brightness AC LED device”). One of ordinary skill in the art would understand the claims and the specification to encompass a device with two switches, one that operates independently of the other. In fact, claim 11 has a limitation wherein the “switch is selectable by a user to *independently switch* . . . at least one of the . . . LED circuit.” *Id.* at 13:20–22 (emphasis

added). The language in claim 15, which depends from claim 11 is consistent in describing that the dimmer switch operates independently of the switch.

Home Depot makes a brief assertion that this claim term is impermissible new matter, but the prosecution history shows the opposite. This term is supported by column 9 lines 18 through 22, which trace directly to provisional application from which this patent claims priority, Ser. No. 61/217,215, filed May 28, 2009. *See* Ex. K at LYNK\_HD\_00002838.

## **VI. CONCLUSION**

In view of the foregoing, Lynk respectfully asks this Court to reject Defendants' insupportable constructions for the terms addressed above and instead adopt Lynk's proposals, which request plain and ordinary meaning or constructions that hew closely to intrinsic evidence.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on October 27, 2021, a true and correct copy of the foregoing document was served on all counsel of record who have consented to electronic service via the Court's CM/ECF system.

/s/ Darlene F. Ghavimi  
Darlene F. Ghavimi